EUROPEAN PATENT OFFICE

Patent Abstracts of Japan

PUBLICATION NUMBER : 09259886
PUBLICATION DATE : 03-10-97

APPLICATION DATE : 04-12-96
APPLICATION NUMBER : 08324210

APPLICANT : SONY CORP;

INVENTOR : FUJIWARA TORU;

INT.CL. : H01M 4/58 C01B 31/04 C10C 3/02 C10C 3/04 C10C 3/10 C10C 3/14 H01M 4/02 H01M 4/04

TITLE : NEGATIVE ELECTRODE MATERIAL OF LITHIUM ION SECONDARY BATTERY

ABSTRACT : PROBLEM TO BE SOLVED: To provide a negative electrode material formed of graphitic powder having high crystallinity and a small specific surface area which provides a lithium ion secondary battery having a high utilizing ratio of electrolyte or Li and a large discharge capacity by constituting the negative electrode material of a specified graphitic carbon powder.

SOLUTION: This negative electrode material is formed of a non-spherical graphitic carbon powder having a specific surface area of $1m^2/g$ or less and an interlayer distance d_{002} of 3.352Å or less. The graphitic carbon powder is obtained by thermally treating, for example, tar and/or pitch (e.g. coal tar rich in aromatic content) at 430-520°C, preferably under a reduced pressure of 10-100Torr, to prepare a bulk mesophase having an optically anisotropic microstructure in which the powder residual quantity in fusing property test is 5wt.% or less, heating and carbonizing it to 700-1100°C in the atmosphere of an inert gas after pulverization to about several μ-50μ, and further baking and graphitizing it at 2500°C or more.